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Dr. James

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Some orthographical Errors.

Inaugural Essay

on

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Cholera Infantum,

For the degree of Doctor of Medicine
in the

University of Pennsylvania,
by

Jacob P. Thornton
of
Pennsylvania.

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Cholera Infantum.

Interested in a complaint, which is observed annually, to swell our bills of mortality to a considerable extent, and which seems in a great measure peculiar to our own country, I enter upon the following essay with so much the more satisfaction, as I hope the inquiry will prove in no small degree instructive to myself. To the country practitioner it would scarcely, perhaps, be known except from his reading, for although children in the country are undoubtly liable to bowel affections, yet it is chiefly to the crowded lanes, and other thickly built parts of a city that we must resort to observe this peculiar disease.

Having through the kindness of a friend, been enabled to examine the health office reports, as forwarded from the principal cities in our union, I was much astonished at the great disparity existing among them in this

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particular affection of children. An outline of the result of this inquiry is here subjoined.

It appears that in Philadelphia, during the year 1823, there were two hundred and fifteen deaths from cholera of persons under two years of age. The total number of deaths from this disease was two hundred and sixty five, being about one seventeenth part of the whole mortality during that year. In 1826, two hundred and forty four persons died of cholera; two hundred and twenty four being under two years of age. In the intermediate years they did not amount to quite so much. In New York, the number did not exceed one hundred and fifty one in any year, during the same period, or one thirty third of the whole. In Baltimore, during the year 1826, there were one hundred and nineteen deaths from cholera infantum alone, or one sixteenth of the whole number. In the Charlestown reports the disease is not mentioned at all. From this statement there would appear something in the sea air, which is

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inimical to the prevalence of cholera: Philadelphia and Baltimore, which are somewhat remote from its influence having a greater proportional majority, whilst New York and all the other seaports, are much less subject to it.

With these few remarks, I leave this fact (of no small practical importance) and proceed to the history of the disease.

The first point of inquiry, will be an examination into those causes, which are known with more certainty to give rise to an attack of cholera infantum;—these may be considered either, as predisposing or exciting. The predisposing causes may be stated as excessive heat, especially when combined with an impure atmosphere; sleeping in close ill ventilated apartments; weaning a child too soon; and often, perhaps, improper diet on the part of the mother or nurse who suckles it. But the confined air of a city, seems particularly congenial to the production of this complaint, and is

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very frequently the sole cause, as a removal to the coun=
=try is known in many instances, at once to arrest every
symptom. These are all general in their operation, many
infants being exposed to their influence, without being
necessarily assailed by cholera: we must, therefore, next
enquire into those causes which are calculated at once to
produce an attack.

First, as respects the frequency of its immediate influence,
stands unquestionable, dentition. In regard to the degree
of constitutional irritation, attendent upon this operation,
there is the greatest possible difference; many children
going through it, with no very apparent inconvenience,
whilst in other instances, life is placed in great jeop=
=ardy. This fact is well worthy of remembrance, in order that
the proper degree of importance, may be awarded to
dentition as a cause of cholera infantum.

Next, in the frequency of its operation, as an exciting
cause is improper food. Among the lower class, where
mothers more frequently nurse their own children,

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the advantages that would otherwise arise from this circumstance, are entirely lost by their carelessness in regard to diet: a prejudice prevails with many, that any thing, which they can relish, cannot possibly injure their children, so that they are regularly supplied at the table with themselves; — to this must be added the use of fruit (frequently unripe) which is often thought wholesome, and all kinds of indigestible vegetables. The impropriety of this course, is but too evident to need any particular animadversion.

The proper clothing of infants, is often so much neglected by parents as to become an active agent in bring on an attack of cholera infantum. The many vicissitudes of the season, require that a child should be protected from the injury that would arise from too little as from too much covering. Cold in checking perspiration, becomes one of the most frequent causes of bowel affections, and must operate with a greater or less degree of force upon the delicate skin of early life, its influence being in proportion

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to the susceptibility. Worms in the intestinal canal are also said to have brought on an attack.

The symptoms which characterize this complaint are many; usually well defined; and of which vomiting and purging are the most prominent. Either of these may precede the other, or they may appear simultaneously. In by far the greater number of instances, violent vomiting, succeeded by purging and some fever, constitute the first evidence of an attack, while at other times, a diarrhœa alone, will continue for some days in advance of the other symptoms; when at length the stomach becomes irritable; unable to retain any thing whatever; and the matters vomited have a peculiar sour smell. At this time the pulse is found quick and small; generally weak; and not unfrequently corded or thready — indicating excessive irritation. The tongue is frequently found white and furred, but sometimes it is dry, smooth, and red, attended with great thirst. The fever is mostly of an irregular remittent type with evening exacerbations.

The nature of the evacuations from the bowels vary considerably. Generally greenish and thin, or slimy and mucous; or else offensive, watery, and in great quantities. Not unfrequently they are found somewhat bloody, or containing white curdled lumps. When the complaint has become established, they seldom present any traces whatever of bile, the secretion of that fluid seeming to have been completely arrested. Not unfrequently too, in the first stage, the stools appear natural at the time of their evacuation, but become green after standing, a little while exposed to the air. They vary considerably in colour.

As the complaint advances, the patient suffers much from spasmodic contractions of the intestines and abdominal muscles; in order to relieve the pain, he is observed to draw up the extremities; and added to this, he is very restless, and continually tossing himself about, affording evidence of the severity of his sufferings.

In this way a child may continue for a longer or shorter space of time, with incessent purging and repeated re-

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~~peated~~ returns of the vomiting. But very soon the system begins to sink under the violence of the attack, and then we find, a cold and dry, or clammy skin, particularly upon the extremeties, whilst the head retains its heat, which rises much above the natural standard; to this also, in some instances, delirium is super-added.

The features are shrunk, and the expression peculiarly haggard; the nose is sharp and contracted; the skin on the forehead is smooth and tight; the eyes are sunk and inanimate, or dull and heavy; affording an illustration of the hippocratic countenance. During sleep the eyelids are only half closed, and there is so much insensibility that flies alighting upon them do not disturb the patient. There is considerable thirst, with a tongue dry and parched, or covered with aptha. As the disease advances, swelled abdomen, œdema of the lower extremities, and vibices appear, attended with coma, and very frequently with convulsions speedily terminating in death.

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The disease may, in some cases from the very com=
=mencement, be attended by the more violent of the
symptoms above enumerated, and run its course
in a very short time, whilst at other times many
weeks will elapse, the constitution seeming to bear
up against it with a pertinacity truly astonishing.
Dissection affords evident traces of disorder in the
stomach, liver and bowels. Although there is every
reason to suppose the two former to be the original
seat and focus of the disease, which is afterwards
extended to the latter. The liver is found altered
in condition, being more firm and solid than
usual, and also much inlarged with great turges=
=cency of its vessels. The gall bladder is found deficient
in healthy bile, and contains sometimes a dark,
at others, a very light coloured fluid. The stomach
presents marks of inflamation, and is found in some
cases ulcerated on its mucous surface. The intestines
also contain some inflamed patches, and frequently

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extensive intus-susception prevails throughout their track. As regards the brain, if the case has ter-minated suddenly and early, it is seldom affected; but on the contrary, if protracted, there are often found appearences of hydrocephalus. The lungs rarely par-ticipate in the abdominal disease.

Whether we regard the symptoms alone, as above de-tailed, or draw our conclusions from post mortem examination, there seems but one inference to be drawn respecting the pathology. In the stomach and liver are situated the primary irritations, of whatever nature they may be: and this is rendered more probable from the very circumstances of the case, - the season in which it occurs, - the early rejection of the contents of the stomach, - and the dis-appearence of bile from the stools. If the gastric derangement precede the other morbid actions, the liver we know is never tardy in becoming an active associate, and moreover a new centre of irritation.

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Diagnosis. The symptoms of this disease, its epidemic character, and the season of the year, will generally be sufficient to distinguish it from all other complaints. Where it resembles other affections, as cholera morbus or dysentery, it is not important to distinguish it from these latter, as they require a similar treatment.

Prognosis. Where the vomiting and purging soon subside, and the pulse becomes slow, full, and more natural, the temperature equally diffused, and dark, bilious, fetid stools appear; or the discharges assume a more healthy appearence the symptoms are favourable. On the contrary, a cold, clammy skin, a small, threaded pulse, haggard countenance, continual vomiting, frequent discharges from the bowels of a greasy, or pink coloured fluid, accompanied, either with great nervous sensibility, or an entire want of it, are unfavourable symptoms.

Treatment. As cholera infantum commences with

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a disordered condition of the alimentary canal, our earliest endeavours should be to evacuate the bowels. Mild cases may be treated with castor oil and laudanum. But in cases of great irritability of stomach, these would be rejected. It is therefore required, that we previously allay irritation, by giving coffee without sugar or milk, or lime water and milk, and by applying warm fomentations to the epigastrium, or by resorting to anodyne injections. This indication having been fulfilled, purgatives are next resorted to. Calomel, from the smallness of its bulk, and insipidity stands pre-eminent.

Sometimes the disease appears with vehement gastric distress, every minute, almost, there is violent vomiting, accompanied with thirst, pain about the umbilicus, febrile heat on the surface, with a very quick, irritated pulse. It is here, Professor Chapman recommends a gentle vomit of ipecacuanha, provided there be no prostration of strength, or

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symptoms indicating inflammation of the stomach. It cleanses the stomach of its offensive contents, imparts tone and strength to that organ, and prevents the recurrence of vomiting. It also determines to the surface, and equalizes excitement. In this, as in all bowel affections accompanied with fever, bleeding is demanded. It tranquilizes the child, both as regards the stomach and general condition of the system. Where the propiety of using the lancet is doubtful, leeches may be resorted to. We now purge with calomel; and if the discharges are bilious, it may be freely given; but if the stools be watery, small doses of calomel combined with opium, may be given, and worked off by castor oil, which will bring away dark, bilious stools. After the bowels have been freely emptied, if there be some irritation remaining, we give a combination of three grains of calomel, two grains of ipecacuanha and one grain of opium, mixed, and divided into eight powders; of which one may be taken every

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two or three hours. This allays irritation, restores the secretion of the liver, relaxes the surface and keeps the bowels soluble. To equalize excitement the warm bath followed by frictions are highly useful. For the same purpose, blisters may be employed. Irritation of the bowels still existing, accompanied with tormina and tenesmus, we may give the oleaginous or cretaceous mixture. What is also useful is the aromatic syrup of rhubarb. But in cases of extreme irritation nothing but anodyne injections will succeed.

As the disease advances, it looses most of its painful symptoms, and a colliquative diarrhœa ensues. This condition calls for astringents. Here great discrimination is requisite, for phlogosis not unfrequently exists, and at other times hepatic congestion. In either of these conditions astringents and tonics, would prove injurious. When these conditions are subdued, then we may resort to astringents.

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The astringent and tonic remedies usually em-
-ployed, are an infusion of dewberry root, colum-
-bo root or logwood. Alum, acetate of lead and
sulphate of iron are also important remedies;
and may be advantageously administered, eith-
-er with or without opium, according to the cir-
-cumstances of the case; but in most instances
the addition of opium is to be preferred.
A strict attention to the diet of the child is
necessary, if it be weaned. Previously to weaning,
the mothers milk is the most natural and
proper food; and subsequently, the mildest diet
should be prefered, as fresh milk boiled, diluted
with an equal quantity of water and sweeten-
-ed, or sago, tapioca or arrow root.
Sometimes a thin slice of ham is very grateful ?
and beneficial. A flannel roller should be applied
around the abdomen, and the infant allowed
the full benefit of exposure to fresh air, which

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has alone, in some instances, mitigated the vio-
-lence of the disease.

Dr James